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About Our CONTRIBUTORS

THE CASTLE THAT WAS DESTROYED is presented this month because this is the designated National Child Health Month. The consciousness of child health, however, should be evident every month; reprints of this feature, therefore, will be available to dentists for distribution to their patients throughout the year.

LLOYD B. WRIGHT, D.D.S. (Washington University School of Dentistry, St. Louis, 1914) is a general practitioner who makes his initial appearance in these pages with an article that is typically DIGEST: concise, illustrated, immediately applicable in the operating room.

WILLIAM A. COLBURN, D.D.S. has been one of our regular contributors whose last article in September, 1938 was likewise written in collaboration with LEONARD FRANK, one of the foremost roentgenologists in the country. That article was on IMPRESSION, OUTLINING, AND RETENTION TECHNIQUE FOR IDEAL MANDIBULAR DENTURES. Mr. Frank has also written for us: A SIMPLIFIED TECHNIQUE FOR FINDING ANGLES AND CONTROLLING DENSITY IN DENTAL ROENTGENOGRAPHY (October, 1937) and A LONG DISTANCE AND LOW PENETRATION TECHNIQUE FOR DENTAL X-RAY UNITS (March, 1938).

BERNARD D. HETRICK received his D.D.S. in 1915 at Temple University School of Dentistry, Philadelphia. Doctor Hetrick has written for scouting and other outdoor magazines on hunting, fishing, and natural science. His short human interest article in this issue is a forerunner to a technical article on acrylics which will appear in THE DIGEST at an early date.

WINFIELD S. FISHER, D.D.S. (Northwestern University Dental School, 1919) concludes his article, begun last month, on the CLINICAL DIAGNOSIS AND TREATMENT OF DENTAL CARIES. Part II in this issue deals with treatment. Seldom in an article on man's most widespread disease is the scientific and practical combined. It is hoped that our readers will agree that this article comes close to the ideal: a clinical article based on a wide knowledge of science which likewise takes into specific and concrete account the economic aspect of practice.

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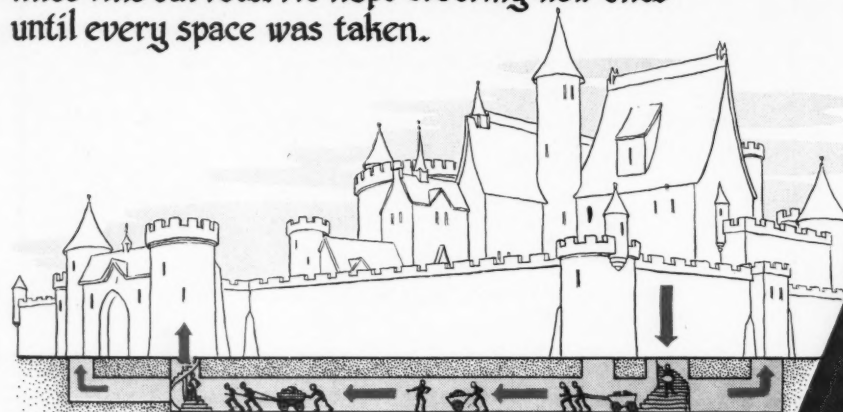
THE CASTLE THAT WAS DESTROYED



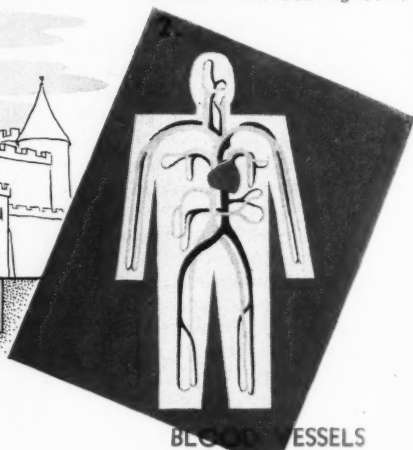
The King who lived in the **CASTLE** liked fine turrets. He kept ordering new ones until every space was taken.



The **BODY** likes strong teeth.

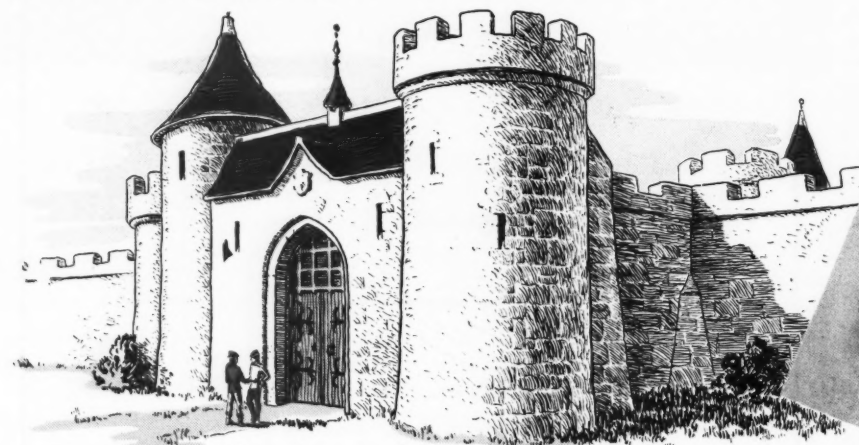


Building materials for new turrets were brought from a cellar through secret **PASSAGEWAYS!**



BLOOD VESSELS are passageways that carry nourishment to the teeth.

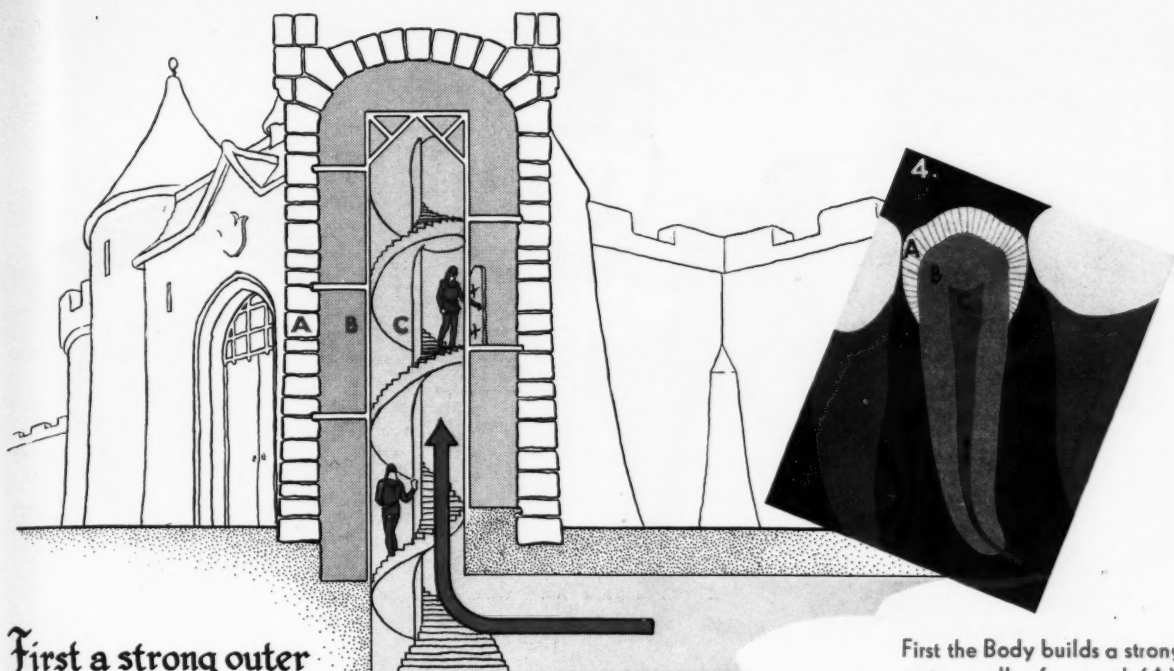
3.



Above the gateway were important **TOWERS**, built with the Castle's own supplies.

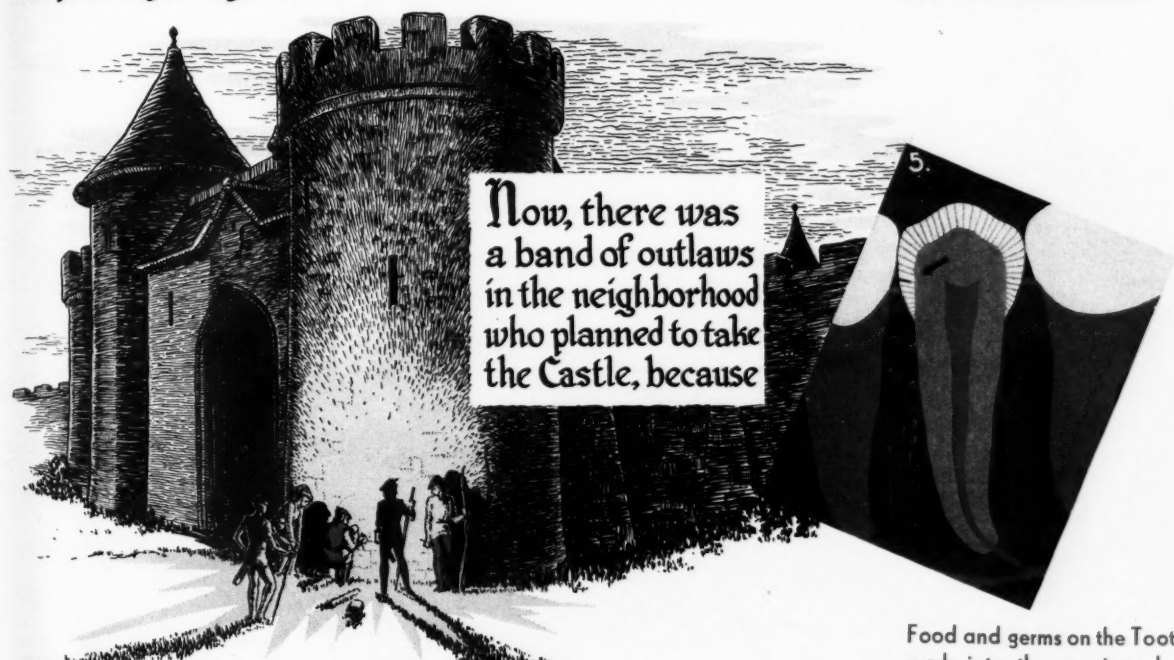


The **TEETH**, too, are a gateway built from the Body's own supplies.



First a strong outer wall was built (A); then, inner walls (B) which were not so strong; and then, the passageway (C).

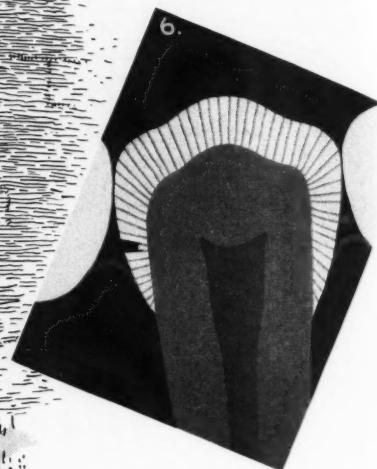
First the Body builds a strong outer wall of enamel (A); then an inner part called dentine, not very strong (B); then (C) the passageway of nerves and blood vessels.



Now, there was a band of outlaws in the neighborhood who planned to take the Castle, because

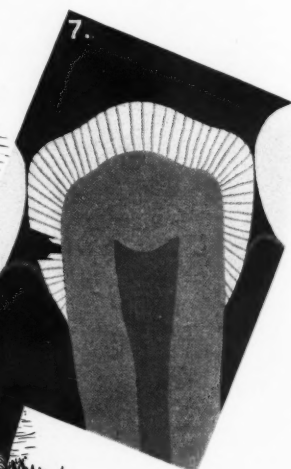
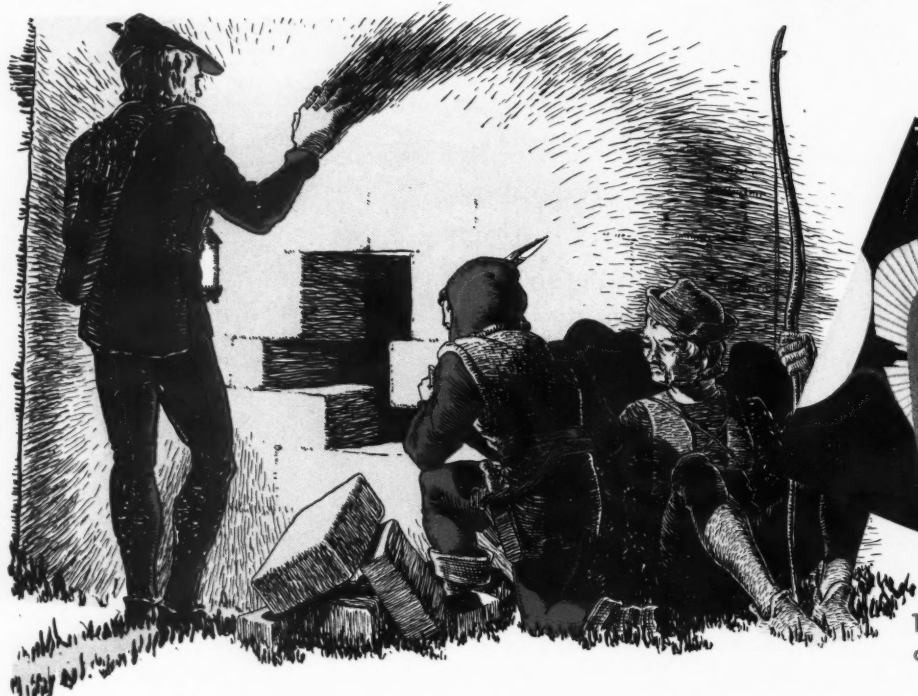
they wanted the rich supplies! Their plan was to enter the Castle stealthily by making a hole in the strong outer wall. They knew the King trusted too much to the stones. He forgot about the weak mortar.

Food and germs on the Tooth work into the crevices between the "rods" which form the enamel. A toothbrush helps to keep food and germs away.



Soon the outlaws made a small opening in the strong wall. The King's loyal servant told him what was happening, but the foolish King only liked new turrets and would not bother to repair the old ones. He said, "That hole is a trifle. They cannot destroy the wall."

It is easy and important to have a dentist fill a tiny hole.

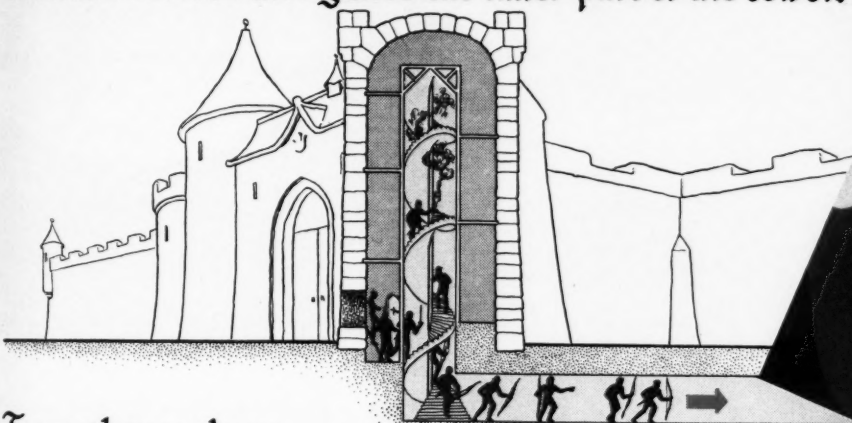


But the outlaws worked fast once they made the first small hole. Still the foolish King only waved his good servant away and paid no attention!

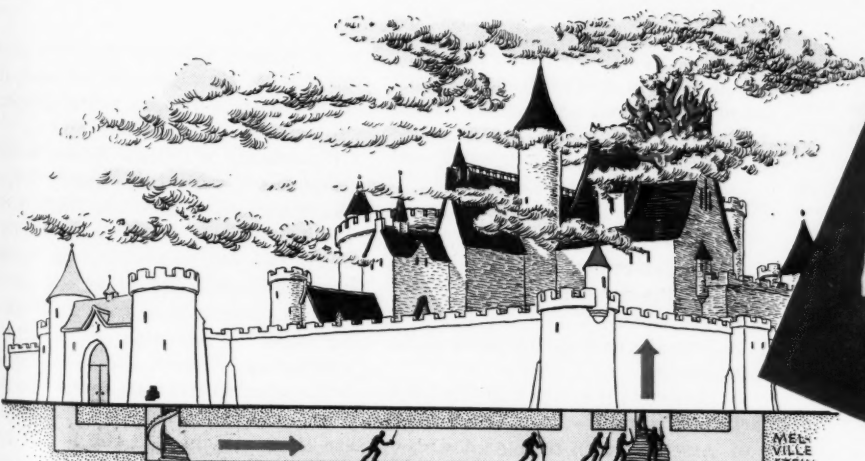
The hole will get larger and only a dentist can repair it.



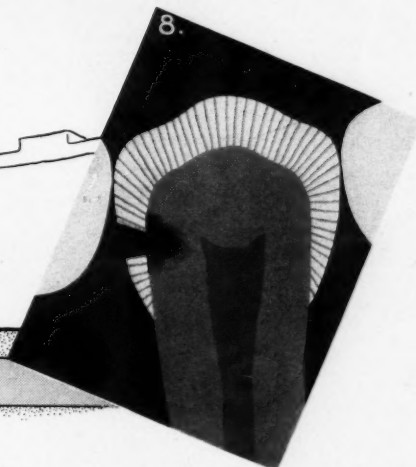
The hole grew large.
Still no one bothered to repair it. Thus the
outlaws entered and gutted the inner part of the tower.



From there, they
easily broke into the secret passageway!



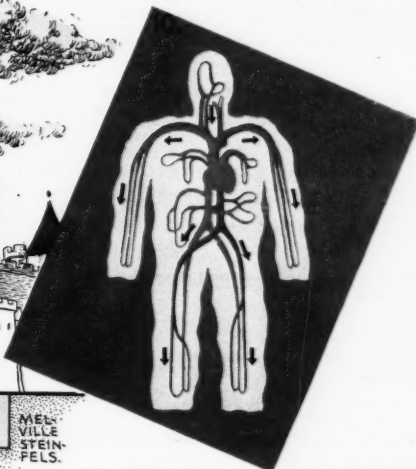
And the whole Castle
was invaded and destroyed....



It is best to see the dentist
early.



Germs enter the Blood Stream



Passageways of the Body
(Blood Vessels) carry germs
from the Teeth to the whole
Body and cause sickness.



Immediate Transitional Replacements

LLOYD B. WRIGHT, D.D.S., St. Louis

Fig. 1—Clasps contoured from one continuous piece of wire with intervening loops for retention of alloy.

Fig. 2—Teeth ground to model and waxed into place.

Fig. 3—Plaster matrix poured and wax removed.

Fig. 4—Pouring molten metal to assemble appliance.

Fig. 5—Appliance assembled and ready for finishing.

Fig. 6—Appliance finished and polished and ready for insertion into mouth.

THE OBJECT OF THIS article is to present an easy, rapid, and practicable method of transitional replacement of lost teeth, so as to restore function and esthetics until a more suitable appliance can be made.

Technique

1. Take an impression and bite with any suitable material and by any preferred method.

2. Pour the cast and mount it on an articulator.

3. Contour the clasps and grind the artificial teeth.

4. Assemble with fusible alloy.

Material for Clasps—Any suitable material can be used for the clasps, but stainless steel (chrome alloy), 22 gauge, has the advantage of easy

manipulation, sufficient strength, and low cost. If stainless steel is used, it should not be annealed, as the temper cannot easily be restored.

Contouring of Clasps—When small clasps are indicated, large loops should be used, so that the clasp wire will be securely held in the alloy. When two clasps are desired, both should be contoured from one continuous piece of wire with intervening loops for retention of the alloy.

Grinding of Teeth and Assembling—The selected teeth are ground to fit the space and occlusion. The teeth are then attached to the model by wax, and a plaster matrix is poured around them. After the wax is removed, the teeth and clasp or clasps being held in position by the matrix,



Fig. 7—Separate clasps showing large loops for retention of alloy. (This and succeeding illustrations are not intended to show design but are submitted only to show a few cases in which this technique is adaptable.)

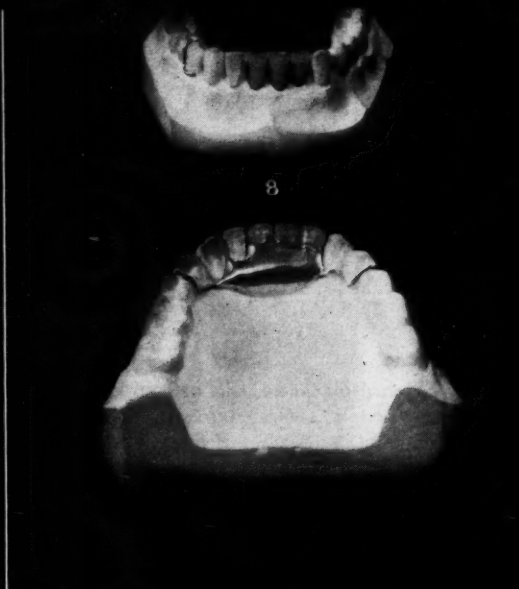
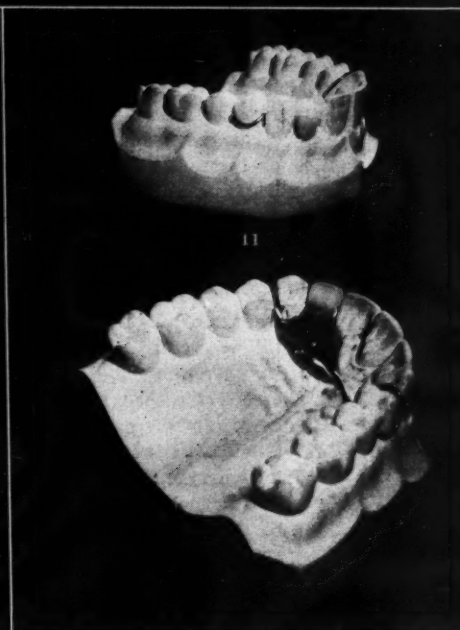
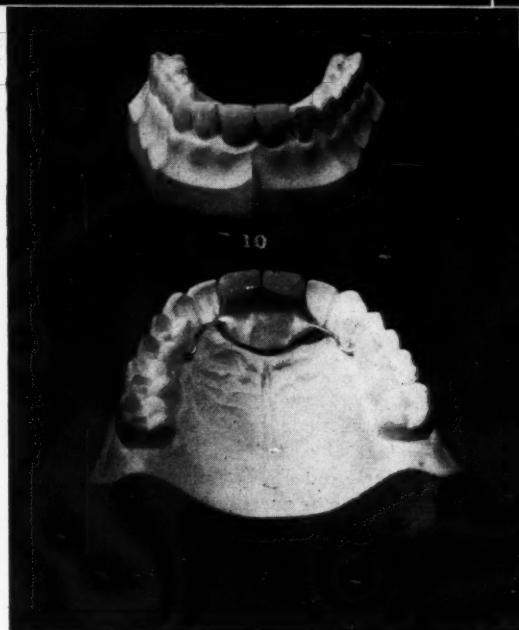
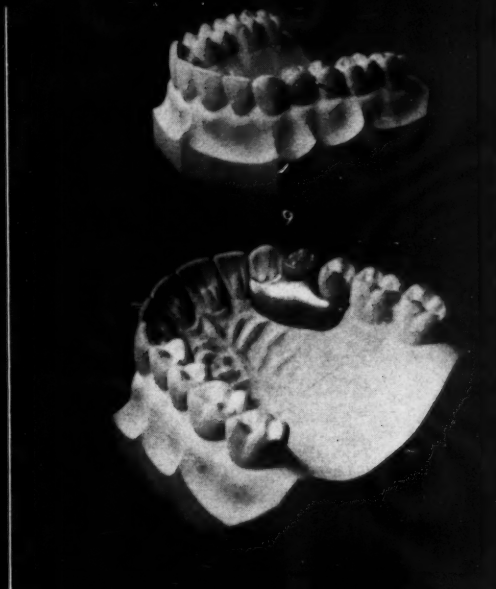


Fig. 8—Restoring lower anterior teeth.

Fig. 9—Restoring upper bicuspid.

Fig. 10—Restoring upper central incisors.

Fig. 11—Restoring upper right lateral incisor.



the molten metal is poured to assemble the appliance.

Low-Fusing Alloys—Any one of the many available low-fusing alloys may be used. The fusing points of these alloys which range from 140° F. to 240° F., eliminate the danger of

checking the porcelain teeth when the molten metal is poured against them. These low-fusing alloys usually contain bismuth, tin, and lead, and, if a low-melting point is desired, cadmium is often included. The alloy can be pressed and adapted to the

parts as it hardens. With a hot spatula, any excess can be removed or additions can be made if necessary.

The appliance is removed from the model and finished the same as a vulcanite base.

Paul Brown Building.

Impression, Outlining, and Retention Technique for Maxillary Dentures

WILLIAM A. COLBURN, D.D.S. and LEONARD FRANK, San Francisco

THE PRINCIPLE OF reproducing the mandibular mouth tissues at rest and approaching the subject from the standpoint of myology, instead of osteology, as suggested by MacMillan,¹ is also applicable for ideal maxillary dentures. Convincing proof of the MacMillan principle, that the tissues of the mouth should be reproduced at rest, can be demonstrated by taking an impression of the maxilla in soft prepared plaster. If an unfavorable displacement of the soft tissues occurs (because of trapped air or impression material), there may be poor adhesion. On the other hand, a subsequent impression taken under similar conditions, with the same tray, will have so much retention that its removal is accomplished with considerable difficulty. It is obvious, then, that complicated maxillary impression techniques (based on osteology of the dry specimens, the erroneous principle of compression, over-extension, muscle-trimming or washing) may include one or more errors during the various steps, which would be directly responsible for an unfavorable displacement of tissue and indirectly responsible for the lack of retention in the finished case. This extreme sensitiveness of the maxillary soft tissue to unfavorable displacement, in conjunction with the slight volume change of the processed materials, may also be accountable for a loss of retention of a maxillary denture. It is seldom, however, that a misfit occurs in processing a standard material on the master cast.

Reproducing the soft tissues at rest is also a solution of the greatly misunderstood problem of outlining. Complicated outlining techniques are not necessary or indicated, as there is no noticeable change in undisturbed fibrous tissue attachments from childhood to middle life. A study of

accurate cast records of complicated orthodontia cases, by Harold E. Devlin, D.D.S., San Francisco, reveals no appreciable change in the soft tissue reflections or attachments. The cast record, Fig. 1, A, shows the irregularity of the teeth before treatment. The completed case, Fig. 1, B, three years later, might be considered a remarkable change, but the black line, representing the turn of the soft tissue (the permanent outline), remained virtually the same as the original record.

Extensive absorption of an edentulous ridge during a period of nearly twenty years apparently makes no appreciable change in the soft tissue attachments (Fig. 2, A). The outline remained the same and the soft tissue reflections are more easily recognized than the intaglio of the maxilla (Fig. 2, B).

Reproducing the soft tissues of the maxilla at rest and outlining the denture at or 1 mm. beyond the turn of the reflected tissue attachments should be accepted as a far more accurate system of outlining a denture than techniques that recommend: (1) covering as much area as possible; (2) including certain favorable areas; (3) heating and reheating; (4) adding and reducing; (5) protruding the tongue or exerting tongue pressure; (6) closing or opening with pressure. Such techniques rely on some mysterious power to cause the materials to flow into favorable but unknown positions. Finally the over-manipulated maxillary impression is "washed" with another impression material, with the result that the outline is still unrecognized and unknown and the intaglio of the maxillary tissue is considerably altered.

Ideal or favorable cases cannot be recognized or classified by the shape or size of the maxilla: a large maxillary bone with a thin mucosa may be unfavorable, whereas a small maxillary bone with a deep mucosa and

little ridge height may have unbelievable retention. To be more explicit, any ridge that the roentgenograms reveal to have from 2 mm. to 2.5 mm. of soft tissue covering with no "serrated alveolar atrophy," generally proves to be favorable regardless of shape or size.² It is possible that small maxillas have been considered and classified as unfavorable because the conventional systems of impression-taking over-compress or displace the favorable tissue and the resilience of the underlying tissue causes the finished case to unseat just enough to be uncomfortable.

Retention by adhesion alone may be adequate in isolated favorable cases, but the retention can be more than doubled by the post-valve and beading technique.³ The post-valve seal prevents ingress of air and eliminates a shelf for food to lodge; the chamfer-bead tightly seals the periphery, and the roofless aprons in the palate act as individual retention chambers. The beading can be easily removed at any time, if found unnecessary or undesirable, and the post-valve seal can certainly do no harm.

Technique

Outlining the Maxilla—Thoroughly clean the patient's mouth.

1. With an indelible pencil, outline the anterior papilla of the rugae, the torus palatinus, and both tuberosities anterior to the hamular process of the pterygoid plate.

2. A line about one-fourth inch long is drawn across the foveae palatinae and the junction of the hard and soft palate; the unmarked areas on both sides of this line is then located to complete the outlining of the posterior palate.

3. With a blunt instrument, locate

¹MacMillan, H. W.: Anatomy of the Throat, Mylohyoid Region and Mandible in Relation to Retention of Mandibular Artificial Dentures, J. A. D. A. 23:435 (August) 1936.

²Colburn, W. A.: Classification and Roentgenologic Interpretation of Dental Surgery, DENTAL DIGEST, 38:396 (November) 1932.

³Colburn, W. A.: Negative Impression Technique and Cast Beading for Difficult Edentulous Cases, DENTAL DIGEST, 39:435 (November) 1933.

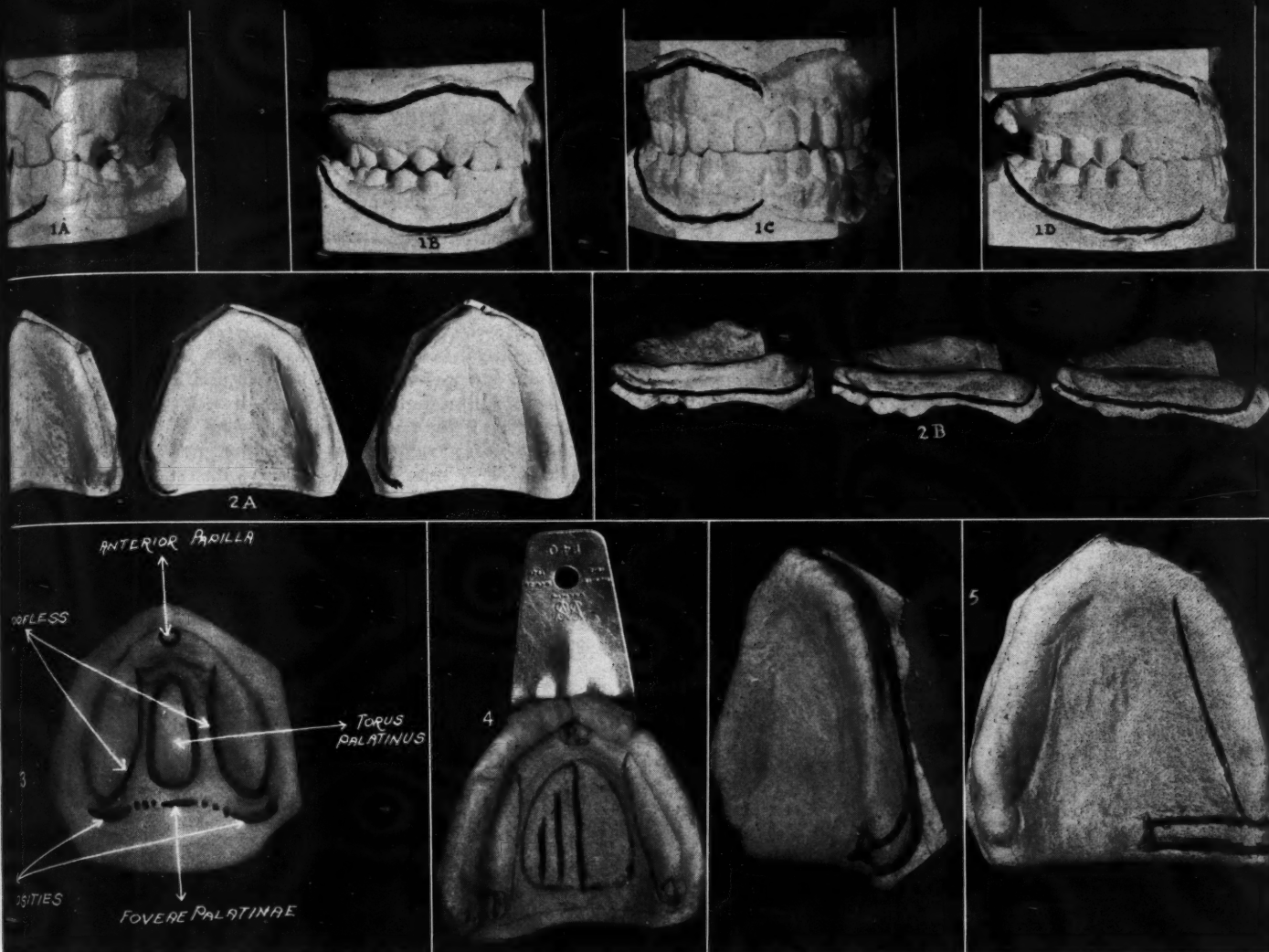


Fig. 1—A, Complicated orthodontia case before treatment; patient, aged 14 years. Black line shows tissue reflections and attachments. B, Side view. C, Completed case (by Harold E. Devlin, D.D.S., San Francisco). No appreciable change can be noticed in the soft tissue attachments or reflections after three years' treatment. D, Side view.

Fig. 2—A, Noticeable changes in the intaglio of a maxillary case during a period of nearly twenty years of denture service. B, Reflections of the soft tissue and outline for the maxillary denture on the cast. No appreciable change can be observed in outline or reflection of soft tissue during the twenty-year period.

Fig. 3—Accurate diagrammatic method of outlining maxilla for adequate relief, the anteroposterior dimension and additional retention for an artificial denture. Indelible pencil marks are automatically transferred from mouth to impression.

Fig. 4—Maxillary impression reproducing the soft tissues at rest, and an accurate method of relieving the hard and soft areas before pouring cast.

Fig. 5—Master cast. Technique of outlining with pencil, peripheral retention beading and post-valve seal.

the areas of soft tissue from the tuberosities to the region of the anterior third between the torus palatinus and crest of the ridge on both sides, and mark for the location of the roofless beading (Fig. 3).

4. The posterior palate line and the roofless beading lines are scored with a sharp instrument in the impression, which will appear as a fine embossed bead on the crest. The beaded cast gives the locations for the roofless beading and aids in arriving at the exact length of the baseplate and denture.

Taking the Maxillary Impression—

1. The tray selected is filled with a thin mix of plaster.

2. With the fingers or spatula cover the vault of the palate, the space buccal to the tuberosities and the canine fossae.

3. Insert the filled tray and rotate to place.

4. Gently raise the lip and cheek on both sides to release trapped air; allow the lips to resume normal rest position without manipulation; instruct the patient to breathe gently through the nose.

5. Remove the tray when the plaster has thoroughly set (Fig. 4).

Outlining the Maxillary Cast for a Denture—The peripheral outline of the maxillary denture is obtained by placing a pencil parallel to the cast and at a right angle to the ridge, and marking the turn of the reflected tissue from tuberosity to tuberosity (Fig. 5). The anteroposterior length should be rechecked with indelible pencil transfers from the mouth or by observing the turn of the posterior palate tissue while the patient blows air through the closed nostrils.

Relieving the Hard and Soft Areas in the Impression—All relief areas, as shown by the indelible pencil transfers, are made in the impression before pouring. With a Black's hoe, number 44, score the impression from 1 mm. to 2 mm. deep in the region of the anterior papilla of the rugae, the tuberosities (if movable) and the torus palatinus, and scrape with a Kingsley scraper to the bottom of the channels. The scored torus palatinus and tuberosities and the scraped relief on one side of the torus are shown in Fig. 4.

Peripheral Retention—Additional retention is accomplished by cutting a vignette chamfer bead 1 mm. deep in the cast at the turn of the soft tissue, and blending from the bottom of the

cut from 2 mm. to 3 mm. toward the crest of the maxillary ridge (Fig. 5). Irritation is eliminated by removing the sharp edge of the bead and polishing the flanges after processing.

Post-Valve Seal—Retention and seal of the posterior palate (post-valve seal) is obtained by: (1) placing warmed carding wax, 3 by 5 mm. thick, across the posterior border of the baseplate; (2) returning the baseplate to the mouth and compressing the tissue of the posterior palate anteroposteriorly; (3) removing the excess wax with a warmed knife at right angles to the baseplate; (4) reproducing the depth of the wax pattern in the maxillary cast, and (5) finishing with an anterior vignette (Fig. 5).

Roofless Retention Chambers—Ad-

ditional retention is obtained by roofless chambers that function both independently and collectively in maintaining the vacuum (Figs. 3 and 5). The chambers are generated by the roofless beadings, which are placed in the soft tissues of the palate, between the torus palatinus and the crest of the ridge, and across the posterior palate parallel to the post-valve seal. The beading is a three-way cut, the first at least 1 mm. deep, made in the cast at right angles to the crest of the ridge; the second, at nearly right angles to the first, and the third, bisects the first two, which sharpens the apex of the bead. The sharp bead displaces less tissue and yet prevents air from entering the vacuum chambers.

450 Sutter Street.

Patient Ingenuity

BERNARD D. HETRICK, D.D.S., Butler, Pennsylvania

THE ACCOMPANYING illustrations show a set of dentures constructed by the patient who wore them and a friend who assisted him. The patient had purchased a set of inexpensive dentures prior to the financial crash of 1929 and they were evidently over-vulcanized in their original making. One fracture followed another with no funds available to defray the cost of having the dentures repaired.

The patient took these dentures to the casting hall of the railroad car plant where he worked and used them for patterns in the molding sand, with the results shown. His only equipment was that used in the manufacture of railroad cars. The dentures were successfully worn, with the aid of a commercial gum tragacanth preparation, for five years. They have since been replaced with a set of usual dentures.

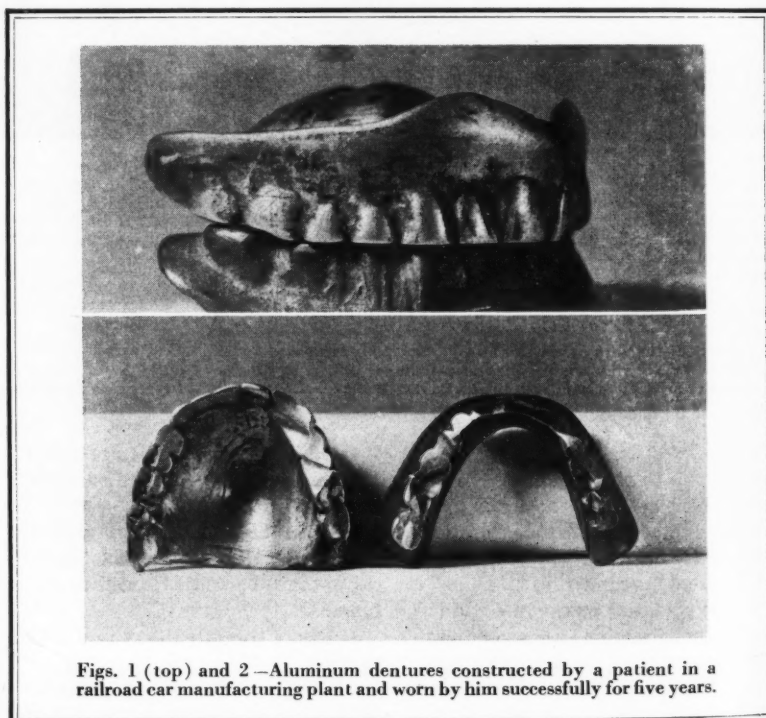
The dentures, teeth and baseplate, were cast in aluminum and a small amount of silver. The abrasions shown in the bicuspid regions on both dentures (Fig. 2) are caused by a pipe stem which the patient habitually carried on that side of his mouth.

It will be noted (Fig. 1) that the

lower denture is much darker than the upper. This was caused by a different mixture of metals, as both

dentures were not cast in the same melting of metals.

145 East Jefferson Street.



Figs. 1 (top) and 2—Aluminum dentures constructed by a patient in a railroad car manufacturing plant and worn by him successfully for five years.

Clinical Diagnosis and Treatment of Dental Caries

Part II: Treatment

WINFIELD S. FISHER, D.D.S., Elmhurst, Illinois

Cultures

AS WAS MENTIONED in the first installment of this article last month, the clinical picture and history obtained at the initial appointment for examination offer the most accurate gauge for determining caries susceptibility. At this time also, if it appears desirable and the patient consents, proper steps for obtaining a culture of acidogenic organisms are taken. The usual procedure is to give the patient a sterile tube wrapped in a sterile napkin and placed in an envelope in which is also enclosed paraffin for chewing. The patient is instructed to open the package the morning of his first appointment, before breakfast, and to collect the saliva stimulated in three minutes' chewing of the paraffin. Plate cultures of from 48 to 72 hours' incubation are then made from this specimen (outline 2).

These cultures cannot be relied on as sole indexes of susceptibility. They indicate only potential susceptibility rather than actual, and offer no means of gauging virulence, although the size of the colonies and rate of growth may offer some index of this. Large numbers of colonies and active growth of various types, such as yeasts, molds, streptococci, and lactobacilli have been observed in patients with clinical evidences of mild susceptibility. The number and variety of organisms found, however, may influence the exactness and comprehensiveness of treatment.

Restoration of Mouth

The next step is thorough restoration of the mouth. Comprehensive and efficient treatment does not justify neglect of the fundamental principles of good operative procedure. Extension for prevention, restoration of tooth form, proper contact relationship—all these must be rigidly accomplished.

The mouth should be carefully cleaned, either before or after restor-

Fig. 3—Small triangular space resulting from first stage recession of septal tissue. Most insidious stage for caries development; difficult to keep clean by ordinary methods of brushing; any collection is protected by contact points themselves, especially when the latter are broad.

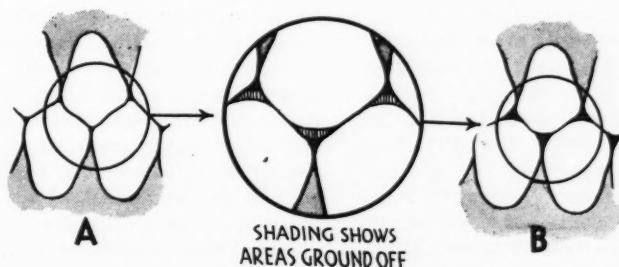
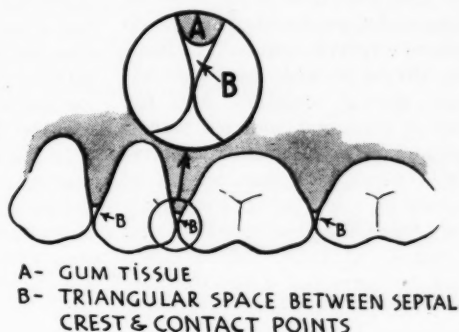
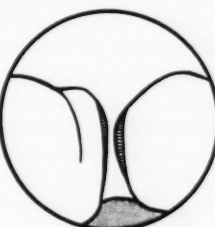
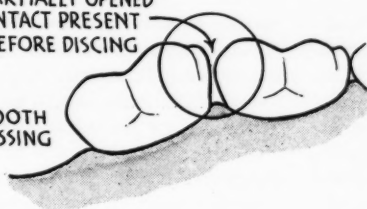


Fig. 4—A, Long cusps, especially of bicusps which interlock in occlusion, with pronounced inclined planes and pointed cusps due to functional abrasion. B, Planes and cusps shortened and rounded by grinding, thereby reducing food impaction and contact separation.

PARTIALLY OPENED CONTACT PRESENT BEFORE DISCING

TOOTH MISSING



SHADING SHOWS PORTION DISCED OFF TO OPEN EMBRASURE

Fig. 5—Partial contact separation may be increased by discing with decidedly beneficial results in tissue tone and abortion of caries development. This procedure is carried out only when replacement of lost teeth causing condition is unlikely. Insertion of filling in such cases is only a temporary expedient. Other factors of traumatic occlusion are not considered here. The concern here is only with treatment to prevent caries.

ative dentistry has been completed. Whenever gingivitis or some other soft tissue involvement is present, this should be treated first, so that the condition may be observed as operative procedures progress.

Stabilization of Arches

Stabilization of the arches is highly important. The more stable environmental conditions are kept, the more effective treatment becomes. Bridges and space maintainers should be placed wherever needed. The traumatic effects of long cusps that interlock during occlusion, and the effects of abnormal, inclined planes, resulting from individual characteristics of functional wear, should be corrected by rounding off and shortening as much as good judgment and experience dictate. Malocclusion should be corrected whenever possible. When patients cannot afford replacements or orthodontic treatment, one can expect a more regular appearance of carious lesions and one must feel less sure of satisfactory results of treatment even when other phases of treatment are closely observed.

In the case of patients in the periods of childhood through adolescence, however, when the disorganizing effects of erupting teeth are present, the control of environmental factors by such stabilization is impossible. Even with a full complement of teeth assured, changes are constantly taking place through jaw development, slow eruption, incomplete eruption, multiple eruptions, and in varied tooth relationships.

Systemic Relationships

Necessary steps for the establishment and maintenance of normal health of the patient should be taken. Any general systemic condition that could affect growth, development, tooth structure, and normal occlusion should be noted. Any aberrations from normal should also be considered in their relationship to the mouth flora and oral secretions. Assimilation and other metabolic processes should be noted, and any necessary steps for correction should be taken. This phase of treatment is a medical problem and should be carried out and under the supervision of the family physician.

Diet Control

Diet control is impossible in the extent required in many cases, for it is difficult to eliminate carbohydrate from the patient's dietary regimen owing to the energy requirements of the person. Substitution of the more innocuous vegetable starches, such as peas, beans, lentils, and potatoes, for the more insidious cereal starches should be made, especially in highly susceptible patients. Definite amounts also should be specified, for the average person has no conception of how large a part of his customary diet is unconsciously composed of starches and sweets.

In the case of young patients, their selection of food and times of eating present practical problems. A potentially satisfactory and well balanced meal often becomes decidedly unbalanced by the way the patient chooses what he eats. Mothers always insist that their children have well balanced diets, envisioning what is placed before them rather than what they actually eat. Unfortunately the average child shows a predilection for carbohydrate foods rather than for fruits and vegetables, so that the usual result is a carbohydrate excess at the expense of other important components. This fact also makes important the definite statement of amounts (such as, one slice of bread at a meal). Specific amounts, however, should be determined by the physician.

Between-meal eating, and pre-bed-time snacks are also obstacles to definite carbohydrate control and dietary balance. This is particularly true when between-meal eating is in the form of bread sandwiches, cookies, crackers, candy. The time of eating certain foodstuffs is therefore an important consideration; carbohydrates should be confined to meal times in specified amounts, with the substitution of fruits for between-meal eating, or the prohibition of such habits altogether.

Bridge teas, buffet lunches, and other types of social refreshments are the adult phases of the dietary problem. Inasmuch as these social functions involve definite obligations, compensation for such dietary indiscretions must be obtained by a more exacting oral hygiene routine and more comprehensive attention to environmental factors affecting self-

cleansing properties. These compensatory adjustments are also necessary for those patients on special diets for certain systemic conditions.

Oral Hygiene

Brushing — The mouth hygiene habits of the patient should receive close attention; usually they require considerable correction. The average patient spends too little time in brushing his teeth. Patients should be advised to time their brushing, so that three full minutes are spent in doing it. After the first minute the patient begins to get effective results, because the other two minutes spent in attention to the procedure and to the places covered in brushing assure complete inclusion of all surfaces. Most patients require advice both on brushing technique and on the proper type of brush to use.

Use of Mercurochrome — An effective method of assuring good brushing results has been found to be that of having the patient stain the teeth with ordinary 2 per cent mercurochrome solution just before brushing and then brushing until all stained areas are removed. Application of the drug is not unpleasant, is effective as a disclosing solution, and may be done easily and quickly by using a match or toothpick with some cotton wrapped around one end. Even after proper instruction certain habits of brushing can foster the missing of some areas, so that the use of mercurochrome assures more regular coverage of all important surfaces. As generally done, brushing of the teeth is of little value; properly done, it can be a valuable adjunct to treatment.

Dentifrices — The patient should receive specific advice on the type of dentifrice best suited to his particular need. In the case of normal mouth conditions and a thin saliva, any acceptable dentifrice is satisfactory. The physical characteristics of the saliva should be noted, so that a patient with a thick, ropy saliva will not be hampered in efficient brushing by the use of a soapy or magnesium dentifrice. In cases of more than average calcular precipitation, a dentifrice containing an oxidizing agent is often of value. These patients should brush oftener also. Patients prone to gagging should not use a dentifrice producing a great amount of lather.

Dentifrices depending largely on solvency of film for their effect are of little value in mouths showing heavy calcular deposits. Dentifrices possessing mild abrasives are more effective for smokers than other types.

Use of Dental Tape—When gum recession or shifting teeth make it advisable, the patient should be fortified in his brushing results by the use of dental tape or some other type of interdental cleansing instrument. Tapered, round toothpicks are the usual and most readily obtainable example of the latter.

Alteration of Salivary Consistency—Mouth hygiene care should also include dietary adjustments to alter salivary consistency and soft food collections. The ideal condition is a thin saliva of moderate amount. The reduction or elimination of excesses of fried and starchy foods tends to obtain such a saliva, other factors being equal. Proper chewing, the incorporation of coarse foods in the diet, and the substitution of types of food less conducive to plaque formation are important in obtaining a high degree of mouth hygiene results.

Hexylresorcinol Mouth Wash—In cases of pronounced susceptibility the use of hexylresorcinol, as recommended by Bunting, as a mouth wash in a proportion of one part to three parts of water is good practice in the general attempt to keep the bacterial count as low as possible. When used, the teeth should first be well brushed, whatever interseptal care required should be performed, and the mouth rinsed well with clear water. The hexylresorcinol solution should then be used, rinsing well for one minute.

Increased Resistance—The attainment and maintenance of normal health increases the individual protective powers inherent in body processes and secretions. General dietary considerations tend still further to reduce the number of acidogenic organisms by making conditions unfavorable for their collection, growth, and activity. This can be still further influenced by the mouth hygiene habits of the patient; and finally, stabilization of environmental conditions wherever practicable makes whatever control of environment is attained more reliable over a period of time.

OUTLINE 2—TREATMENT

- I. Culture (if desired and possible).
- II. Repair.
- III. Stabilize: bridges, space maintainers, occlusion.
- IV. Establish a normal general condition in so far as possible.
Medical care by physician may be needed here.
- V. Diet:
 - A. Balance (under supervision of physician)
 - B. Relation to collections
 - C. Relation to acidogenic activity.
- VI. Treatment of local environmental factors:
 - A. Mouth hygiene:
 - (1) brushing;
 - (2) interseptal care;
 - (3) use of mouth wash when indicated;
 - (4) regular dental prophylaxis.
 - B. Establishment of maximum self-cleansing powers:
 - (1) pit and fissure treatment;
 - (2) interproximal treatment;
 - (3) gingival third treatment.

In addition to these factors, however, certain steps can be taken whereby the resistance of particular tooth surfaces can be increased. Inasmuch as there are three general types of carious lesions: pit and fissure, interproximal, and gingival cavities, and inasmuch as each type calls for different methods of treatment, such treatment will be considered under the particular headings.

Pit and Fissure Treatment

As long as there are caries organisms present in the mouth, positive control of caries in these regions is impossible. No satisfactory prophylactic measures, applicable as a regular routine by the patient, have yet been devised. Although the combination of self-cleansing factors may place many pits and fissures in immune areas in a mouth, the changes constantly taking place in these factors, especially in young patients and in those mouths with lost and unreplaced teeth, make such an apparent immunity uncertain in its duration.

1. All pits and fissures should be examined carefully.

2. In teeth of good structure and form where grooves and pits are fine and shallow, grinding them out with small, fine stones can often be done

successfully.

3. The pits and fissures of well-formed, lower bicuspsids, some upper bicuspsids, lingual pits of upper anteriors, central pits of upper first molars, and disto-lingual grooves of some upper molars may be widened in this manner; that is, by grinding with small, fine stones.

4. Many lower molars, especially the first molars, are deeply grooved with multiple grooves radiating bucco-lingually from the central groove. It is in this type of tooth, in deep disto-lingual grooves of upper molars, deep grooves of upper bicuspsids, and in deeply grooved lower molars that prophylactic odontotomy, as recommended by Hyatt and others, and silver reduction methods are indicated.

5. The permanent result from silver reduction is somewhat dubious; hence, the placing of small gold foil or amalgam restorations is the method of choice, conserving tooth structure as much as possible but observing rigid adherence to principles of extension for prevention.

Interproximal Treatment

The best assurance of protection against interproximal caries is a normal septal tissue. When this tissue

extends well up to the contact points, treatment should be concentrated on the preservation of such a condition. Prophylactic measures should be instituted often enough to prevent blunting or recession of the septal crest by calcular deposits, and the mouth hygiene routine of the patient should be such as to prevent the same result from food impactions. When these surfaces become exposed to the dangers of collection because of injury, or because of the normal recession coincidental with increasing age, or because of traumatic results of function, certain procedures become advisable.

The most insidious condition in predisposing to interproximal caries is that in which there is only a slight snubbing of the septal crest, so that a minute triangular space is formed just beneath the contact points (Fig. 3). This space favors the collection of small amounts of fine, soft food detritus with its potential acidogenic reactions. This stage is usually due to beginning recession of gum tissue as the patient grows older. These recessive changes begin early, being noticed first between the anteriors in the later teen ages. The molar regions and then the bicuspid areas become involved, although premature or complicated development may result because of soft food or calcular deposits.

1. The reduction of hypertrophied tissue by proper prophylactic measures as an aid in enlarging these spaces and facilitating self-cleansing is necessary.

2. Reduction of soft food ingestion and the use of medium width flat dental tape or tapered, round toothpicks by the patient, in addition to brushing, is advisable.

3. Bicuspid with long cusps which interlock in occlusion and which have become pointed by functional abrasion should be shortened and rounded by grinding with stones (Fig. 4). This will reduce the tendency toward food impaction and contact separation in these regions.

4. When teeth have shifted because of unreplaced lost teeth and their replacement is unlikely, widening of the contact space by discing the contiguous tooth surfaces is effective in eliminating food impaction, septal gum irritation, and in making such areas self-cleansing. The develop-

ment of caries is consequently aborted (Fig. 5).

5. When abrasion has sharpened marginal ridges by wearing down their original rounded contours, these ridges can be contoured and re-rounded by discing (Fig. 6). As a rule, results can be obtained without excessive grinding.

Successful results in all these methods are usually a combination of prop-

er operative procedures and improved hygienic and dietary habits on the part of the patient. This attention to intercusing, marginal ridge, and contact relationships are decidedly effective in reducing the tendency to interproximal caries.

In cases of advanced septal tissue recession, when the cemento-enamel margin of the tooth and the concave root surfaces beneath that margin

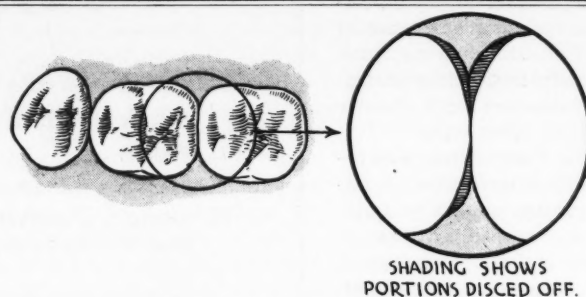


Fig. 6—Method of correcting contour and re-rounding marginal ridges flattened and sharpened by functional abrasion. Often broad contacts can be improved by grinding, so that better self-cleansing embrasures and more ideal contact relationships are obtained than were present at first.

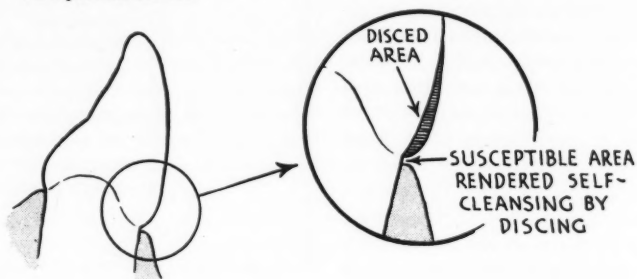


Fig. 7—Method of reducing buccal and labial curvature at point of greatest convexity to obtain a self-cleansing gingival margin.

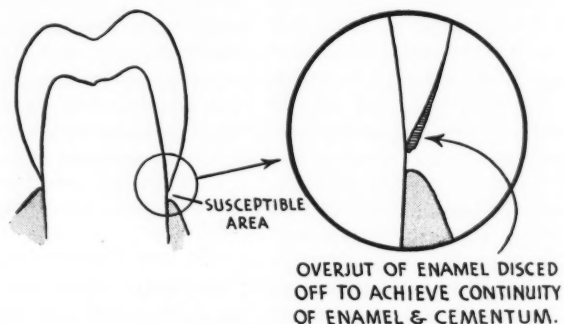


Fig. 8—Obtaining continuity between enamel and cementum by grinding over-jutting enamel. Where slight recession has developed, the fine depression between this enamel overjut and the gingival tissue becomes highly favorable to caries development. Relatively rapid development of caries may occur because of greater susceptibility of less dense cementum.

are exposed, the requirements for interproximal prophylaxis become more exacting for the patient in order to have the operative procedures effective in preventing caries at the cemento-enamel junction or below it.

Gingival Third Treatment

Gingival third caries is due to one or a combination of the following conditions: (1) poor mouth hygiene; (2) tooth form that inhibits gingival self-cleansing; (3) gingival tissue recession.

1. Treatment procedures for mouth hygiene again call for a combination of dietary and prophylactic measures.

2. One of the most common causes of poor gingival third hygiene is hypersensitive cementum; hence, the correction of this condition is a first requisite of treatment. It has been found, however, that once relief has been established to the point of comfortable brushing, the most effective measure in obtaining permanent relief from hypersensitive cementum is absolute cleanliness of the surfaces concerned. This applies to sensitive areas in interproximal areas as well as to this sensitivity on buccal and lingual surfaces.

3. Often the conformation of the labial and buccal surfaces of teeth is such that self-cleansing of the gingival third area by excursion of food is inhibited, especially in the case of soft foodstuffs. When the curvature of this surface is pronounced, or terminates rather abruptly near the gingival border, a protected area at that margin results. This condition predisposes to gingival third caries; but this predisposition can often be reduced or eliminated by reducing the curvature through grinding of the surface at the point of greatest convexity (Fig. 7). Freer excursion of food over the entire tooth surface is thus obtained.

4. In other cases in which tooth conformation is satisfactory but gum recession exposes the indented cemental surfaces just apical to the cemento-enamel junction, the self-cleansing facilities for this spot can be augmented by discing off the enamel until a more uniform continuity between enamel and cementum is obtained (Fig. 8).

5. This procedure also eliminates hypertrophy of gingival tissue result-

ing from the gingivitis usually found in these cases with its added predisposing influence on collections in those areas.

6. Discing off the enamel as described is also applicable to similar conditions when found on the lingual surfaces of the teeth.

With the exercise of care and judgment, this type of treatment has always resulted in improved tissue tone, better hygienic conditions, and greater assurance of caries immunity in such regions than is afforded by silver reduction or silver nitrate application.

Adjusting Treatment According to Susceptibility

Experience has shown that the practical application of corrective and preventive treatment against caries development is confined largely to the more or less regularly susceptible and to the markedly susceptible patients. The average patient of slight or intermittent susceptibility is generally indifferent to any definite protracted routine, being satisfied with periodic examination and prophylaxis, advice of a general nature as to diet, brushing procedure, and dentifrices. Inasmuch as these patients usually possess teeth of relatively good structure, regular arrangement, normal relationships, and a good combination of other environmental factors, such as thin saliva, good oral hygiene, average health, and relative stability of environment, such a procedure, although not of a particularly constructive nature, is satisfactory in maintaining an efficient chewing mechanism.

For the few in this category who are "mouth conscious," however, some definite preventive regimen is of value, and for those whose susceptibility is more pronounced, it is highly desirable:

1. After the repair of the mouth has been accomplished, an appointment may be made, at which time the general considerations of diet, prophylaxis, and hygiene are discussed.

2. At this time whatever corrective operative procedures that apply to the case may be performed also.

3. The frequency of later examination and prophylaxis is determined at this time and the patient is placed on the call list.

4. Subsequent appointments are occupied in checking up conditions, correcting where necessary, examination, and prophylaxis.

The usual fee for the time occupied in terms of operative dentistry is charged. If detailed care is exercised in determining and carrying out the necessary steps at the initial appointment for treatment, subsequent appointments usually require only routine examination and prophylaxis. To obtain any constructive value from prophylaxis, most patients should receive this attention every three months, especially if calcular deposits are persistent.

In cases of regular or marked susceptibility the entire comprehensive outline of treatment should be observed. Consultation with the family physician as to general health and dietary consideration; reduction of carbohydrates, including substitution of less harmful types for more harmful types of starches and sugars; stabilization of the complete denture; specific attention to mouth hygiene, and the correction of environmental factors as well as possible—all these are required.

Age of Patient in Relation to Treatment

As mentioned earlier, the age of the patient has a significant influence on determining the type and method of treatment. In the young patient, consideration of health and diet must include not only those phases influencing growth and development but also those affecting the structure of erupting teeth. With little control of environmental conditions possible, so far as specific tooth surfaces are concerned, with the exception of pits and fissures, treatment is more general in nature, relating to amount of carbohydrate eaten, time of eating, and types of food (vegetable, cereal).

At this time little can be done in local treatment to prevent interproximal caries of deciduous teeth. In the case of permanent molars whose structure, position, or rate of eruption add to their predisposition to caries, the degree of cooperation of the patient will determine the method of treatment.

When the temperament or age of the patient precludes the filling of highly susceptible grooves and pits,

precipitation of silver or the recurrent forcing of cement into the deeper grooves and pits must suffice until the teeth are completely erupted or until the patient becomes reconciled to the performance of more satisfactory measures. Inasmuch as both the need and the predilection for starches and sweets are most pronounced during this period, proper control of their ingestion is extremely difficult; hence, prophylactic odontotomy is of definite value at this period.

Although regressive changes begin early with their resultant increased predisposition to proximal and gingival caries, the development of good mouth hygiene habits and the institution of frequent and regular prophylaxis will maintain a high degree of prevention by slowing the process to its natural physiologic rate.

As the patient grows older, and these regressive changes become more extensive with the added complications of opening contacts, shifting because of lost teeth, traumatic and impaction sequelae, local environmental treatment becomes more enlarged in scope whereas the need for general considerations becomes reduced to mere maintenance levels.

In cases of advanced age or in those in which the oral picture has been advanced by injury, neglect, or disease, the clinical picture of caries changes to one of predominantly cemental location. At this time, treatment becomes decidedly local in character; and dietary control centers largely on its relation to fermentative and collection possibilities.

Adjustment of Method of Practice to Treatment

In many cases of slight susceptibility to caries in which constructive treatment requires only consideration of factors of a general nature, the patient may be instructed in the necessary matters as the required reparative dentistry is done.

When it is necessary to reserve time for such consideration, however, a consultation fee such as prevails for

OUTLINE 3—ADJUSTMENT of Method of Practice

I. Patient of slight susceptibility:

- A. Patients normal in all other respects.
- B. Reduction of carbohydrates; alteration of types of food and time of ingestion
- C. Correction of oral hygiene habits
- D. Prophylaxis and examination every three to six months
- E. Consultation for B and C may require appointment or needs may be met as reparative dentistry is done.

II. Patient of moderate susceptibility:

- A. Correction of environmental factors (in addition to foregoing)
- B. Correction of general health as required
- C. Appointments made for diagnosis and treatment (usually two after repair). Fee based on operative remuneration.

III. Patient of marked susceptibility:

- A. Complete treatment as outlined
- B. Fee based on time and number of appointments required; annual fee to include reparative requirements and treatment advantageous.
- C. One appointment for diagnosis; another, for treatment requirements; patient placed on call at stated intervals as needs of case indicate. Fee per treatment mutually agreed on in advance, if not on annual fee basis. When annual basis is made, both fee and arrangements for payment should be understood at beginning of treatment.

a similar medical consultation is justified. When operative procedures are included in treatment, a fee equivalent to the compensation for average reparative dentistry in a similar period of time is charged. In susceptible cases a half hour appointment for diagnosis and an hour appointment for the corrective procedures are made, the fee charged being based again on the value of that time when occupied in the ordinary operative treatments.

The most practical and advantageous procedure in cases of marked susceptibility, however, is to arrange for care of the patient on a definite annual fee basis. This fee will vary according to the needs of the particular patient concerned and will be based on the estimated time and number of appointments required. Inas-

much as the needs of the patient will vary from year to year, this fee should be re-established each year, so that an equitable fee can be maintained and adjusted according to the variation of those needs.

Conclusion

So long as clinical treatment of dental caries is not specific, all predisposing factors peculiar to each patient must be considered and eliminated as far as his particular susceptibility and cooperation justify. The foregoing outline of diagnosis and treatment offers a practical procedure whereby this may be accomplished effectively both as to results obtained and with regard to elasticity of adjustment in a general practice.

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The Editor's Page

THE WOES OF A conscientious school administrator are many. A frequent lament of his is that not enough money is available for health projects in school systems. Because school boards generally represent the vested interests in the community, the heavier taxpayers particularly, it is extremely difficult to initiate programs, even for health conservation, which would increase the tax rate. A far-sighted school program would be one that paid out more for prevention of disease in children and thus decreased the costs of later deficiencies and relief. A dollar spent to conserve health is probably ten dollars saved on future treatment. It is rather generally agreed that an integrated and coordinated conservation of a health program will in the long run cost the community less than the present method of patching up bodies after health has gone.

It has been repeated again and again to the point of weariness that dental caries is the most universal disease that affects man. People are generally indifferent to tooth decay as a disease. If dental caries were dramatic and disabling, if quarantine laws were necessary, if sudden death resulted from the lesion, people would probably get more excited about the condition. The disease is slow in developing and its consequences are measurable in a lifetime rather than in a dramatic and acute episode. Adults, most dentists as well as laymen, are too indifferent to the nature of dental disease. Most of them consider dental caries as some mere physical destruction of the continuity of the tissue.

There is the opportunity and the necessity to condition the child to thinking of caries in terms of disease and to emphasize the idea of conservation by analogies that will strike the child's imagination. Some of our readers may wonder why a technical magazine, such as this, carries in this issue the illustrated story for children, *THE CASTLE THAT WAS DESTROYED*. The idea in presenting this material is to give the dentist something that he can use in showing the child the value of dental conservation. We are extremely lacking as a profession in suitable educational material, prepared at the child's level of interest. We suggest that this feature, *THE*

CASTLE THAT WAS DESTROYED, be removed from the magazine and be separately assembled for use by the child in the reception room.

We have learned from our experiences in developing visual educational material that the dental profession is eager to obtain suitable material to use in chair-side education. We find, however, that even among men who use all the modern techniques of patient teaching, the skill of the dental operator is usually much greater than the skill of the dentist as a pedagogue.

There is the danger of being misunderstood in suggesting that more effort be made in the presentation of services to the patient. It may sound like a plea for salesmanship, which, as such, has no place in dental practice. The education of the patient, however, is entirely a different matter and is one with ethical connotations: We are not being fair to the patient if we approach him cryptically, with mysterious jumbles of words and symbols, and without taking him into our confidence. We expect him to have confidence in us for successful treatment. We likewise should have confidence in his understanding, and should make an earnest effort to tell him what our objectives are in treatment, by what method we expect to reach these objectives, and what his obligations may be.

Dentists in practice may be remiss in carrying on health educational projects because of lack of training in pedagogy or lack of interest. School administrators are usually ineffective because of lack of funds. There is, however, an awakening national consciousness on the subject of health conservation. Recently the Chamber of Commerce of the United States in cooperation with the American Public Health Association announced the winners in health conservation contests. Awards were made, not necessarily on the basis of the healthiest communities, but on the effectiveness with which the community is meeting its health problem. The emphasis was on the community and not on the individual or any special group in the community. No group in the community has an exclusive obligation to develop health projects. Health must be a concern of all the people for all the people in the community.



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NOTES ON THE

Cuff

March 23: A strange example of circuitous and peripheral reasoning regarding a health project has come to light today. A school board in one of America's wealthiest communities finds it difficult to raise funds for a dental program. A bright and enterprising person has, therefore, put into operation a boomerang: Candy is sold in the school lunch room. The profits from the sale of candy are used to finance the dental health plan. The circle of fallacy looks something like this: The more candy the children eat, the more money will be available; but the amount of money available will probably never catch up with the increase in tooth decay produced by eating the candy. This example of inconsistent health promotion might be comparable to a suggestion that money for the light bill might be saved by having children do their homework in the dark, and the money thus saved on the light bill might be expended to pay for eyeglasses.

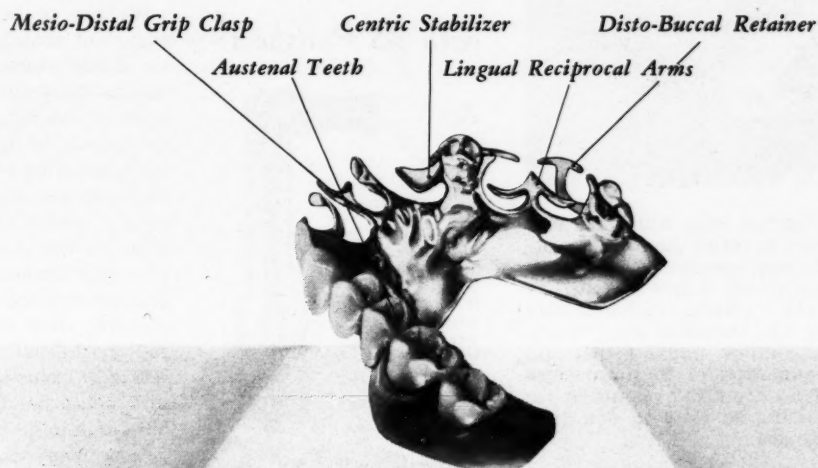
March 28: Modern criminology has come to the garage business. Mounted conspicuously in a public garage is this sign: "Our patrons are protected by the National Detection of Deception Laboratory." It seems that if anyone puts in a claim for loss of a car gadget or equipment, he has to stand the scrutiny of the lie detector,

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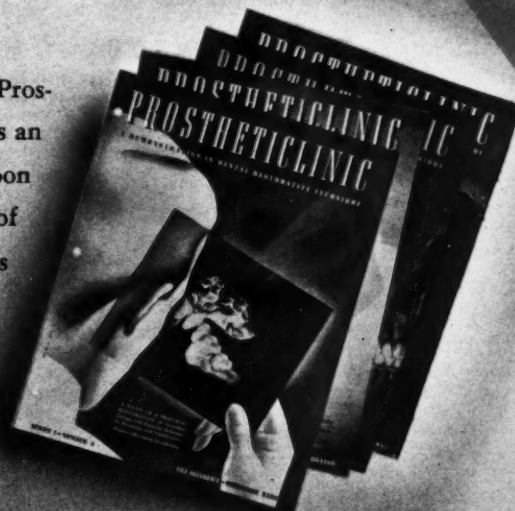
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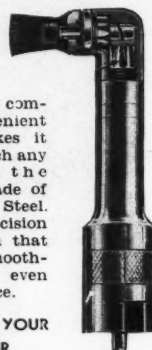
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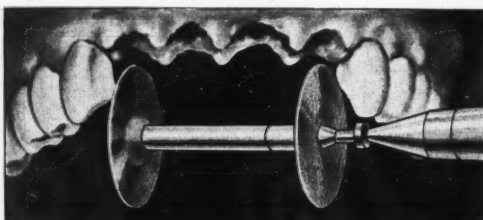
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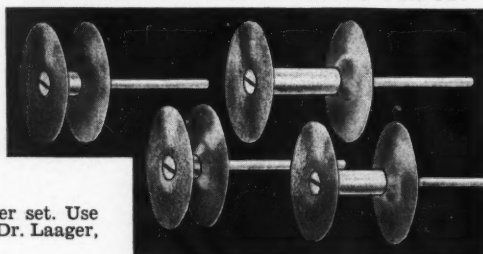
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or more euphemistically, the deception detector. If one makes a claim for a stolen car blanket and the blood pressure is increased the presumption is that the complainant did not have a blanket in the first place.

We like to be up-to-date in our science of dental practice, so perhaps we should examine such an institution as the National Detection of Deception Laboratory with a view to subscribing to its services. How helpful it would be when our denture patients appear with their dentures in several pieces and claim that they broke in the mouth while yawning! We could immediately apply the lie detector and the needle of guilt would probably show that they were dropped on the bathroom floor. What a saving of excuses and recriminations that would be! Or suppose the next time a patient steps in with a dislodged inlay neatly wrapped in the flimsy paper from the bathroom and he says that the inlay came out while eating a piece of soft bread, the pointing finger of the lie detector would suggest that a caramel or maybe two caramels were responsible. Or suppose again that the next time a patient rushes breathlessly into the office, thirty minutes late for a thirty-minute appointment and complains about a traffic tie-up or a flat tire or failure of the alarm clock to go off, we could say, "My dear Miss Patient, no charge will be made if the lie detector indicates that your excuses are anything but phoney."

April 7: Some of my well-fed friends spend their conscious moments ranting at the W P A, "That Man in Washington," and national affairs generally. The shovel leavers of the W P A who support a family on an income of about \$50 a month are the subjects of particularly violent assault by some of my well-nourished colleagues. If you want to appreciate what it might be to lean on a W P A shovel, get out in the country some day and try to apply the carefully tended hands of the dentist to such tasks as hauling rocks, digging holes, and planting trees. I have just returned from such an attempt and found the tachycardia and dyspnea induced by heavy lifting a physical experience that some of the W P A critics might find uncomfortable. Take a couple of days some time, you W P A carpers, and start by getting up early on a drizzly morning, driv-



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From the pursuit of nascent oxygen there is no escape for bacteria...which explains the usefulness of Vince as an aid in the treatment and prevention of Vincent's and other infections of the mouth and throat. A teaspoonful of Vince in a half glass of water makes a pleasant mouthwash and gargle that releases its oxygen gradually. It cleanses and deodorizes.

Vince may be also used on the toothbrush as any dental powder, or it may be applied as a paste to affected surfaces. For the hygienic care of artificial dentures, Vince is unexcelled. A trial supply gladly sent if you ask for it on your letterhead.

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The Ames Duplex Package makes it still more economical—six dollars' worth for only \$5.00, any assortment desired.

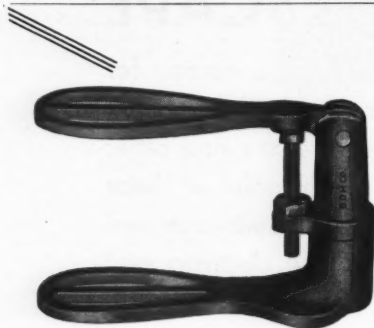
Some dentists have not yet found out that Ames Crown and Bridge Cement costs no more and in some instances even less than other dental cements of standard quality.

More than one has admitted that he kept Ames Cement on hand for difficult cases but used a "cheaper" cement for ordinary work.

Any dentist can afford to use Ames Cement. Leading men for years have said that they cannot afford to use anything else. Ask your dealer for Ames or write us for technical data. *Please use coupon, page 206.*

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The W. V-B. Ames Company, Fremont, Ohio



A new Slant on Crown and Bridge Articulators...

Here is a modification of our No. 10 Articulator which has enjoyed a steady sale for many years.

The new model has all of the features of the old one, vertical lift and horizontal swing, with a novel automatic rise to conform to the cusp angle. The plates are $1\frac{5}{8}$ inches apart to permit mounting the casts without excessive trimming.

As always, the new No. 10 Articulator is made of stiff, unyielding bronze. Its price remains the same, \$1.75 each, or \$1.50 in lots of a dozen or more.

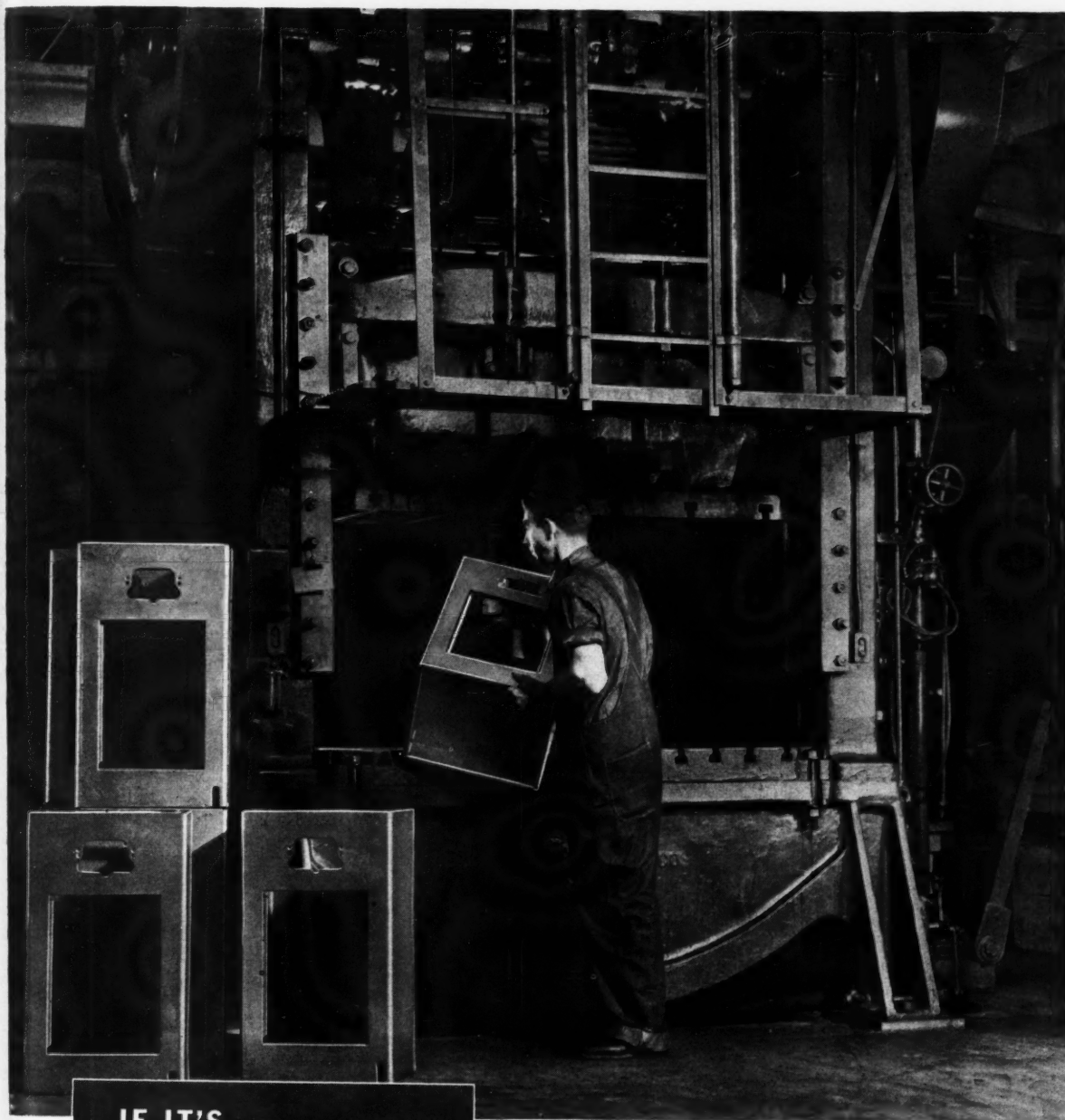
We know you will approve of this improved type of articulator. Your dental dealer's name, please, if you decide to order direct from us.

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ing to a rock quarry in an open truck, loading the truck with about 4 ton of rocks weighing upward to 150 pounds each, swinging a sledge, returning with the rocks and laying them up for a stone wall. Or let the hand that wields the spoon excavator and the dainty hatchet and hoe of operative dentistry pick up the maul and shovel of the W P A man. Spend a day gouging out tree roots, more tenacious than those of lower third molars. Excavate into the earth more deeply than into any leathery mass of dentine and see how the back feels that has known no greater stresses than leaning over the dental chair. I certainly suggest no concentration camps for American critics of any institution, but only a voluntary day in the country with fingers bashed by rocks and a weary, aching back. I think some tolerance would result.

April 10: I am not much for radio programs, particularly the ones in the daytime that drip with sweet sentiments. But on this day when the nations of the world are preparing to go to war, it is comforting to hear one voice of cheer, apparently a sincere and genuinely cheerful fellow rather than a professional joy spreader, pay a visit over the air waves. Ted Malone, on the program "Between the Book Ends," seems to combine the qualities you would like in a fishing companion or in your neighbor across the way. We need more people who have no message, nothing to sell, nothing to rant about, no pet conflicts to perpetuate, and no causes to espouse. Ted Malone whom I have never seen and do not know seems to be the sort of fellow that you would like to have sitting at the end of a rowboat with you.

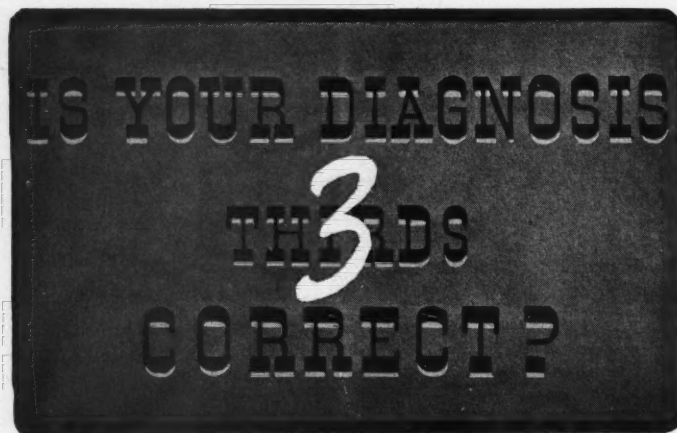
April 17: Have you ever heard two dentists discussing their operative experiences with dental colleagues? Here are two cases for the record: With ten minutes to go before lunch time, a dentist appeared in pre-syncope at a colleague's office and asked that an aching upper third molar be removed. The operator "knew" it would be an easy case, a mere twist of the wrist and the tooth would be delivered. But this dentist-patient had no ordinary third molars. Rather than having conical roots there were five roots spread like a chestnut tree. One by one, they broke, and one by one, they were delivered. And the lunch hour had long passed and air gushed from the nose through the



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THE DENTAL DIGEST

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Pittsburgh, Pa.

mouth via the sinus of the patient.

The other story is also about two dentists: Along about quitting time in the evening the patient-dentist mounted his courage high enough to ride into the exodontist's office. Once again there were the chopping, the grinding noises, the spitting and the sponging, and the search for buried roots of an upper molar. I was spending the evening with this exodontist and several other dental colleagues. The telephone rang. We heard only the exodontist's remark: "Oh, so you are having a little draft through there?"

April 24: George E. Cox of Wilmington, Delaware, replies to the "Green" treatment for pyorrhea mentioned in this column last month, with a suggestion for treatment based on actual cautery and contraction of the scar tissue caused by the burn:

"I have several cases on record in which I used the treatment to be described; but I stopped using this treatment for a plain reason. It cured the patients but they went out and said, 'He burns you with a red hot iron.' I had a pocket between the lower cuspid and the lateral and I tried it on myself first without an anesthetic but I always used a local anesthetic for patients, although it does not hurt very much. Here is the technique:

"For simplicity, let's take single-rooted teeth for the experiment. Visualize pockets between the right, left cuspids and laterals on one side.

"1. Use block or infiltration on both sides and lingually.

"2. Cut into the pocket to the bone, from the gum margin upward beyond the length of the socket or pocket.

"3. Heat a gutta-percha instrument red hot and follow the incision to the bone. I do not use a lancet, but perhaps a lancet might be a good guide for clumsy fellows but you and I are not clumsy and we do not need to cut first with a lancet.

"4. With a curet or scaling instrument, gouge out the diseased bone and at the same time clean the roots of the two teeth.

"In about two weeks, the area heals, the gums hug the teeth and the patient has tough and dense tissue as the result of this simple treatment.

"Did you ever see fellows with bad burns on their faces and note the extreme contraction of the tissue? That is where I got the idea and my logic proved correct."—E. J. R.

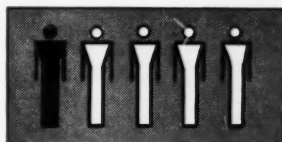
NITROUS OXID ANALGESIA ★ ★ ★

Why is the Control of Operative Pain of such Economic Importance in Dental Practice?

People instinctively resist pain and discomfort. While this resistance is manifested in variable degrees according to individual temperaments, it is unfortunately sufficiently acute in many, many cases to take precedence over good judgment and good intentions. Thus, we find the frequent cases of apparently intelligent people who have delayed dental treatment until severe toothache, an abscess or some other serious oral condition has driven them to seek the aid of a dentist.

Added to this natural resistance to operative pain, dentistry is also handicapped by the unfortunate fact that for years newspapers and magazines with cartoons, stories and so-called humorous anecdotes have characterized the dental chair as a place of dreaded and painful experiences. Thus, in spite of the great scientific advances in dentistry and notwithstanding a better understanding of the health value of dental care on the part of the average individual, "dental chair inhibitions" have been kept alive. Few people go to their dentists willingly. Many go only under severe necessity.

Many people who can afford to pay for adequate dental care put off going to the dentist or do not go at all because of their fear of operative pain.



1 Out of 5 Get It

Only 20% of the people of the U. S. received dental treatment during the prosperous era of 1928-29. One patient out of every five people.



3 Out of 5 Need It

Health authorities have conservatively estimated that about 60% of the population is in need of dental care.

We have only to interrogate a typical group of comparatively prosperous men and women to learn the economic importance of pain control in operative dentistry. An investigation of this character, conducted in the State of Missouri during the past year, embraced 163 people. It was found that one out of every three were in need of restorations. Pain, discomfort and fear were the predominant reasons why these people were neglecting their dental health.

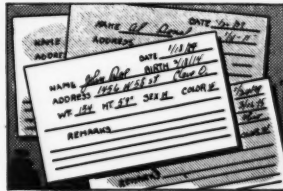
It is unfortunate but it is true that there is a great group of people who can afford to pay for dental care but neglect their dental health because of their fear of operative pain. When, by the use of Nitrous Oxid analgesia, operative pain is controlled and dentistry is made more comfortable, the cause of this apprehension is eradicated and the results are far-reaching.



Under Nitrous Oxid analgesia patients are relaxed, calm and cooperative. They become more regular and loyal patients because dental treatment has become easier and more comfortable for them. Analgesia is a practical practice builder.



Patients who have received dental treatment with the aid of analgesia lose their dread of the dental chair. They look forward to subsequent appointments with confidence. Analgesia minimizes appointment cancellations.



Analgesia makes regular and adequate care easier. It helps bring to life old and inactive patient records. It helps old patients to come more regularly. Analgesia is a practical aid in overcoming the valleys in practice volume.



Dentistry and dentists are not infrequent topics of conversations. People who have experienced the comforting benefits of dental analgesia talk about it. Dentists who are equipped for analgesia frequently have new patients ask for it.

A Free Copy of this Book is Ready for You



This advertisement is a reproduction of a part of an interesting, informative sixteen-page book devoted to Nitrous Oxid analgesia. Fill in the coupon and a copy of this book will be mailed to you. The coupon in no way involves any obligation.

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Please send me a free copy of your book, "Questions and Answers on Nitrous Oxid Analgesia."

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D.D.5

... "but Doctor —
They Don't Fit!"



**[What is it worth to
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When a denture patient says, "They just don't fit—I can't use them," it means a lot of time lost and perhaps an expensive make-over.

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DENTAL MEETING

Dates

Demonstration clinic given by Doctor M. I. Schamberg, Dental Amphitheatre of the Bronx Hospital, 169th Street & Fulton Avenue, Bronx, New York City, May 19, 2:30 P.M.

Ontario Dental Association, seventy-second annual meeting, Royal York Hotel, Toronto, June 5-7.

French Speaking Dentists of North America, fifth annual meeting, Mount Royal Hotel, Montreal, Canada, June 8-10.

Mississippi Dental Association, annual meeting, Markham Hotel, Gulfport, June 12-14.

American Dental Association, annual meeting, Milwaukee, Wisconsin, July 17-21.

The Graduates of the class of 1919, Ohio College of Dental Surgery, will hold their twentieth reunion dinner, Netherland Plaza Hotel, Cincinnati, Ohio, June 12.

American Full Denture Society, annual meeting, Roof Room, Hotel Pfister, Milwaukee, Wisconsin, July 15-16.

American Dental Assistants Association, fifteenth annual convention, Astor Hotel, Milwaukee, July 17-21.

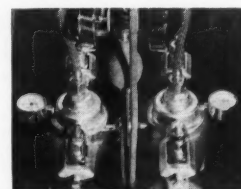
National Dental Association, annual convention, College of Dentistry, Columbia University, New York City, August 14-18. For information write to J. A. Jackson, D.D.S., Charlottesville, Virginia.

Fall Clinic of Montreal Dental Club, fifteenth annual meeting, Mount Royal Hotel, Montreal, Canada, September 27-29.

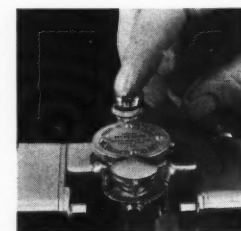


THE YOUNGSTER unafraid

Child patients who have received dental treatment with the aid of modern analgesia as administered by McKesson Easor, have learned that the dental chair need not be a place of dreaded, painful experience. Easor users have found it a great aid in cultivating the confidence and loyalty of the youngsters who will be the adult patients of tomorrow.



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By pressing the convenient re-oxygenating button the operator releases a flow of pure oxygen to the nasal hood. Thus patients can be brought from analgesia to normal almost instantly. This is both a convenience and a very desirable safety advantage—another Easor feature.

You can appreciate the many advantages of nitrous oxide analgesia only when you understand the many advantages of the McKesson Easor. The coupon will bring you complete details with no obligation.

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dentistry. If you have one of these charts and it is worn shabby or if you haven't seen them but would like one for your office we will be glad to mail one to you with our compliments if you will send your request on your professional letterhead.

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If you have occasion to give educational lectures or if you are interested in educational work in your schools we will furnish you with one of our large double-faced wall charts. Profusely illustrated in colors, it is a compact but complete presentation of the essential

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Indicate clearly in your request whether you desire the small office chart or the large lecture chart.

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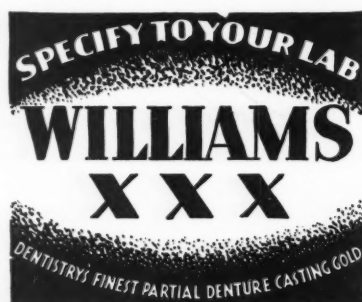
This Kerr Centrifico performs every dental casting job—inlays or partials, small or large, from gold or chrome alloys. Ideal for dentists and dental laboratories, it is also in wide use by jewelers

and in other arts using small castings of precious metals requiring accuracy and density. Much of Kerr Centrifico's outstanding ability is due to its exclusive jointed arm. See how this arm automatically keeps the gold pushing back into the mold, from the very start.

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CENTRIFICO CASTING MACHINE



Alumni Association of the School of Dentistry, Western Reserve University, annual clinic day and homecoming, June 12. Clinics and lectures in the afternoon. Reunion dinner and entertainment in the evening.

Swampscott Convention, annual meeting, New Ocean House, Swampscott, Massachusetts, June 5-7.

Temple University, seventy-sixth annual session of the Alumni Society, June 14. Dental forum in the morning. Outing in afternoon at Melrose Country Club. Banquet in evening at Penn Athletic Club.

STATE BOARD EXAMINATIONS

Georgia Board of Dental Examiners, regular meeting, State Capitol, Atlanta, June 19-22. For information write to R. C. Coleman, D.D.S., 111 State Capitol, Atlanta, Georgia.

Florida State Board of Dental Examiners, annual examination, Seminole Hotel, Jacksonville, commencing June 26. Preliminary applications must be filed sixty days prior to date of examination. For information write to H. B. Pattishall, D.D.S., 351 St. James Building, Jacksonville.

North Dakota State Board of Dental Examiners, regular meeting, Gardner Hotel, Fargo, July 10-13. Applications with necessary fee must be in the hands of the secretary at least ten days prior to date of examination. L. I. Gilbert, D.D.S., 401 Black Building, Fargo, North Dakota.

South Dakota State Board of Dental Examiners, regular meeting, Carpenter Hotel, Sioux Falls, June 26-29. Applications must be in the hands of the Secretary ten days prior to examination. For information wire to C. H. Boyden, D.D.S., Mitchell, South Dakota.

Maine Board of Dental Examiners, regular meeting, State House, Augusta, June 28-30. Applications must be filed 10 days prior to date of meeting. For information write to Carl W. Maxfield, D.D.S., 31 Central Street, Bangor, Maine.

California Board of Dental Examiners, regular meeting, Physicians and Surgeons College of Dentistry, University of California, San Francisco, May 22; in Los Angeles, Room 804, City Hall, on June 19. All applications must be filed 20 days prior to meeting. For information write to Kenneth I. Nesbitt, D.D.S., 515 Van Ness Avenue, San Francisco.

Ohio State Board of Dental Examiners, regular meeting, College of Dentistry, Ohio State University, Columbus, June 26. Applications must be filed 10 days prior to examination. For information write to Morton H. Jones, D.D.S., 1553½ North Fourth Street, Columbus, Ohio.

Alabama State Board of Dental Examiners, regular meeting, Birmingham, June 19. Applications must be filed two weeks prior to examination. For information write to James A. Blue, D.D.S., 1016 Comer Building, Birmingham, Alabama.

Mississippi State Board of Dental Examiners, regular meeting, new State Capitol Building, Jackson, June 20. Applications must be in the hands of the Secretary on or before June 3. For information write to A. B. Kelly, D.D.S., Yazoo City, Mississippi.

Connecticut Dental Commission, regular meeting, June 10-24, Hartford. Applications should be in the hands of the Recorder ten days prior to examination. For information write to A. J. Cutting, D.D.S., Southington, Connecticut.

New Mexico State Board of Dental Examiners, regular meeting, Albuquerque, June 19-22. For information write to J. J. Clarke, D.D.S., Artesia, New Mexico.

New Jersey State Board of Dental Examiners, annual meeting, June 26-30. Applications must be filed prior to March 15. For information write to Walter A. Wilson, D.D.S., 148 West State Street, Trenton, New Jersey.

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Not only is Hexylresorcinol 'Solution S.T. 37' germicidal in the presence of serum, blood, saliva and organic matter, but it also exerts a tissue surface analgesic effect, a consideration for the patient's

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THE DENTAL DIGEST

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The illustration shows how a denture can be held in place by a "stay put" tissue. This tissue is made of a special material that is soft and comfortable. It is applied to the inside of the denture and the gums. It helps to hold the denture in place and prevents it from slipping out. This is especially helpful for new denture wearers who are often afraid that their dentures will fall out. By using this tissue, they can eat, talk, and laugh with confidence.

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that no longer "stay put"

More confidence wearing false teeth that no longer "stay put" is the result of using FASTEETH. This original alkaline powder helps to hold the denture in place and prevents it from slipping out. It also soothes the gums and prevents chafing. By using FASTEETH, denture wearers can eat, talk, and laugh with confidence.

FASTEETH holds plates more firmly and comfortably. Helps safeguard your public appearance from embarrassment of a loose plate dropping, clicking or rocking at just the wrong time. Mildly alkaline FASTEETH also soothes gums made tender by chafing of a loose plate or excessive acid mouth. Does not sour. Checks plate odor (denture breath). Get FASTEETH today at any drug store and enjoy the ease and confidence of a more firmly held dental plate.

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Send 10c to FASTEETH, Inc., Binghamton, N. Y., for trial size of FASTEETH and KLEENTEETH—new special plate cleaner.

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When a denture powder is indicated, Choose Alkaline FASTEETH

The Advantages of Alkalinity

FASTEETH has three distinct characteristics—well-bodied consistency; mild but persistent alkalinity; and carefully regulated Oil of Peppermint content. As a result, FASTEETH has commendable retentive properties, an allaying effect on gums made sore by oral hyperacidity, and a soothing influence upon the hypersensitive palate.

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Does Your Copy of "DENTURE CLOSEUPS" Need Renewal?

Dentists whose copies of "DENTURE CLOSEUPS" are soiled or frayed through constant use, and those who have not yet even seen this valuable series of color charts on commonly experienced denture problems are cordially invited to send for copy. **NO CHARGE.** Send your letterhead or card and receive your copy of "DENTURE CLOSEUPS," or use coupon on page 207.

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to ordinary saline solutions in assisting normal granulation following extractions. MU-COL reduces the possibility of infection... its cooling and soothing qualities please the patient. Valuable for use at the chair. Long recommended by dentists as a general mouth wash, for users of dentures as a cleanser and to combat fetid breath. MU-COL does not deteriorate—in powder form; it is quickly soluble. Return coupon with card or letterhead for samples for clinical test.

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